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Role of interleukin-6 gene polymorphisms in the risk of coronary artery disease

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ABSTRACT. We conducted a case-control study to investigate the association between *IL-6* -174 G>C and -572 C>G polymorphisms and the risk of coronary artery disease (CAD). We genotyped *IL-6* -174 G>C and -572 C>G in 402 patients with CAD and 402 control individuals. *IL-6* -174 G>C (rs1800795) and -572 C>G (rs1800796) alleles were detected by polymerase chain reaction-restriction fragment length polymorphism. Patients with CAD were more likely to have a smoking habit, diabetes, and hypertension, a high level of triglycerides, and low levels of total cholesterol and high- and low-density lipoprotein cholesterol. Multivariate regression analyses showed that subjects carrying the *IL-6* -174CC genotype had a small but significant increased risk of CAD (P = 0.004). Those carrying the *IL-6* -174 G>C polymorphic variant had a slightly increased risk of CAD in both dominant and recessive models. However, we did not find significant association between the *IL-6* -572 C>G polymorphism and risk of CAD. Moreover, a significant interaction was found between the *IL-6* -174 G>C polymorphism, gender, and smoking habit. Our study, therefore, demonstrated that the *IL-6* -174 G>C polymorphism is correlated with

CAD risk, and that this polymorphism shows interactions with both gender and smoking.

Key words: Interleukin-6; Polymorphism; Coronary artery disease

